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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,891

11/26/2003

David L. Thompson

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09/13/2006

MEDTRONIC, INC.

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EXAMINER

OROPEZA, FRANCES P

ART UNIT

PAPER NUMBER

3766

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/722,891

Applicant(s)

THOMPSON, DAVID L.

Examiner

Frances P. Oropeza

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 6/21/06 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Amendment***

1. The Applicant amended at least the independent claims in the response filed 6/21/06, hence the rejection of record is withdrawn and a new rejection of record established in the subsequent paragraphs.

***Claim Rejections - 35 USC § 103***

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being anticipated by Silvian (US 5466246) in view of Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06).

Silvian discloses a programmer apparatus for communication with various types of implantable medical devices (IMDs) from various manufactures, the apparatus comprising a digital signal processor (DSP) (17), a means for receiving a data sing from any one of the IMDs (13), a means for modulating the signal (17), an antenna (23), a receiver (13), and a transmitter (15) (abstract; col. 1 @ 58 – col. 2 @ 16; col. 2 @ 53 – col. 3 @ 18; col. 3 @ 30-36; col. 4 @ 24-28; col. 5 @ 14-17).

As discussed in the previous paragraph, Silvian discloses the claimed invention except for a single motor controller DSP chip.

Peterson et al. teach monitoring systems using a DSP chip (Texas Instrument TMS320 series) accepted to be a motor controller DSP chip, a single chip, for the purpose of controlling the signal processing function. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a single motor controller DSP chip in the Silvian system

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in order to use a proven means of signal processing that optimally deals with energy usage and signal clarity so patient care is optimized (col. 7 @ 14-20; col. 8 @ 8-13).

***Claim Rejections - 35 USC § 103***

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silvian (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Weijand et al. (US 5999857). As discussed in paragraph 2 of this action, modified Silvian discloses the claimed invention except for the DSP including a means for conserving battery life.

Weijand et al. teach telemetry systems for implanted devices using for the DSP including a means for conserving battery life for the purpose of decreasing the energy drain on the power source. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a DSP that included a means for conserving battery life in the modified Silvian system in order to extend battery life and providing the added benefit of increased bandwidth and greater data transfer rates (abstract; col. 1 @ 42-46; col. 2 @ 19-29, 32-56).

4. Claims 4-7, 11, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silvian (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Slepian (US 6802811).

As to claim 11, Silvian teaches a means for real-time tests (col. 5 @ 3-7) and a means for operating various modulations for different medical devices (col. 5 @ 14-17).

As to claim 13, Silvian teaches the use of electromagnetic radiation, read to include radio frequency (RF) and Infra-red (IrDA) communications (col. 2 @ 9-13).

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As discussed in paragraph 2 of this action and in the two previous paragraphs, modified Silvian discloses the claimed invention except for:

- a remote monitor (claim 4),
- monitoring external devices in addition to internal devices (claim 5),
- the bi-directional communication with a hospital or clinic (claim 6),
- the antenna enabling far-field and near-field telemetry (claim 7),
- a means for signature evaluation (claim 11),
- the communication link being ultrasound (claim 13), and
- the communication link including the Internet via a transponder (claim 16).

As to a remote monitor, Slepian teaches telemetry monitoring using a remote monitor, such as the Internet, for the purpose of connecting the patient to remote health care workers. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a remote monitor in the modified Silvian system in order to enable the physician or the nurse to monitor and interact remotely with the patient (col. 3 @ 1-9; col. 21-25).

As to monitoring external devices, Slepian teaches telemetry systems using external devices in the addition to the internal devices for the purpose of receiving and transmitting data signals from additional devices. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used external devices in the modified Silvian system in order to increase the amount and type of data that is monitored so changes in the patient as reflected in the monitored parameters can be identified and patient care modified as needed in response to the data (col. 1 @ 9-15; col. 2 @ 52-62; col. 6 @ 49-51; col. 12 @ 25-27).

As to the bi-directional communication with a hospital or clinic, Slepian teaches telemetry systems using bi-directional communication with a hospital or clinic for the purpose of enabling remote communication between the patient and the health care professional. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used the bi-directional communication with a hospital or clinic in the modified Silvian system in order to enable patient information to reach the health profession who can respond to the information to optimize the patient's care (col. 1 @ 9-15; col. 2 @ 52-62; col. 3 @ 1-9; col. 7 @ 21-25).

As to the antenna enabling far-field and near-field telemetry, Slepian teaches telemetry systems using the antenna to enable far-field and near-field telemetry for the purpose of communicating with local and distant locations. It would have been obvious to one having ordinary skill in the art at the time of the invention to have the antenna enable far-field and near-field telemetry in the modified Silvian system in order to have patient information reach health professionals locally and in remote locations, so data can be evaluated and the appropriate care provided (col. 1 @ 9-15; col. 2 @ 52-62; col. 3 @ 1-9; col. 7 @ 21-25).

As to a means for signature evaluation, Slepian teaches telemetry systems using a means for signature evaluation for the purpose of identifying the specific monitoring device. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a means for signature evaluation in the modified Silvian system in order to rapidly identify the device so data can be gather quickly enabling rapid bi-directional communication exchanges between the patient and the caregivers when changes in the patient's condition occur (col. 1 @ 9-15; col. 2 @ 52-62; col. 8 @ 4-13).

As to the communication link being ultrasound, Slepian teaches telemetry systems using ultrasound for the purpose of providing a means to establish a communication link. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used ultrasound as the communication link in the modified Silvian system in order to utilize a proven means of linking communication enabling effective bi-directional communication between the patient and the caregivers (col. 1 @ 9-15; col. 2 @ 52-62; col. 6 @ 51-53).

As to the communication link including the Internet via a transponder, Slepian teaches telemetry systems using the Internet via a transponder for the purpose of establishing a remote communication link. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used the Internet via a transponder as the communication link in the modified Silvian system in order to utilize a proven means of linking communication so rapid and effective bi-directional communication is provided between the patient and the caregivers (col. 1 @ 9-15; col. 2 @ 52-62; col. 3 @ 1-9; col. 8 @ 16-18).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silvian (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Peterson et al. (US 6078837). As discussed in paragraphs 2 and 4 of this action, modified Silvian discloses the claimed invention except for a DSP chip fully static with low power modes.

Peterson et al. teach monitoring systems using a DSP chip (Texas Instrument TMS320 series) accepted to be fully static with low power modes for the purpose of controlling the signal processing function. It would have been obvious to one having ordinary skill in the art at the

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time of the invention to have used a DSP chip fully static with low power modes in the modified Silvian system in order to use a proven means of signal processing that optimally deals with energy usage and signal clarity so patient care is optimized (col. 7 @ 14-20; col. 8 @ 8-13).

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silvian (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Weijand (US 6298271). As discussed in paragraphs 2, 4 and 5 of this action, modified Silvian discloses the claimed invention except for the antenna having a first and a second antenna disposed concentric and co-planar.

Weijand teaches telemetry systems using an antenna having a first and a second antenna disposed concentric and co-planar for the purpose of receiving and transmitting telemetry signals. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used an antenna having a first and a second antenna disposed concentric and co-planar in the modified Silvian system in order to provide an antenna with superior communication performance, when compared to a single coil, and to enable a smaller programming head, hence creating a more portable programming device (abstract; col. 4 @ 11-14).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silvian (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Mann (US 5948006). As discussed in paragraph 2 and 4 of this action, modified Silvian discloses the claimed invention except for the programmer being a patch.



Mann teaches transcutaneous transmission using a patch for the purpose of transferring power to the implant and data between the implant and the programmer. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a programmer in the form of a patch in the modified Silvan system in order to provide a thin, light weight programmer that attaches to the skin, that can be located close to the implanted device to provide strong signal coupling, and that can be easily removed, disposed of and replaced (abstract; col. 2 @ 59-62; col. 3 @ 7-14, 29-31).

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silvan (US 5466246) and Peterson et al. (US 6078837) and Texas Instrument TMS320 Product Data Sheet (9/3/06) in view of Weijand et al. (US 5999857). As discussed in paragraphs 2 and 4 of this action, modified Silvan discloses the claimed invention except for the DSP including a means for reducing power requirements (claim 14), and battery recharge input (claim 15).

As to reduced power requirements, Weijand et al. teach telemetry systems for implanted devices using for the DSP including a means for conserving battery life for the purpose of decreasing the energy drain on the battery. It would have been obvious to one having ordinary skill in the art at the time of the invention to have used a DSP that included a means for conserving battery life in the modified Silvan system in order to extend battery life and providing the added benefit of increased band width and greater data transfer rates (abstract; col. 1 @ 42-46; col. 2 @ 19-29, 32-56).

As to recharge input, Weijand et al. teach telemetry systems using recharge input for the purpose providing energy to the capacitors and battery of the implanted device. It would have

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been obvious to one having ordinary skill in the art at the time of the invention to have used recharge input in the modified Silvian system in order to extend the effective life of the implanted device by transferring energy so the device has power for routine operations (col. 2 @ 32-38, 53-60; col. 6 @ 60-62; col. 12 @ 41-46).

### *Specification*

9. The specification stands objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 11, “real-time test” and “various Rx/demodulation” are not found in the specification. In claim 16, “transponder” is not found in the specification.

It is noted the Applicant did not address this objection in the 6/21/06 response.

Appropriate correction is required.

### *Other Prior Art Cited*

10. The prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. US 5383915 to Adams teaches RF, IrDA and ultrasound communication links (col. 3 @ 16).

### *Statutory Basis*

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fran Oropeza whose telephone number is (571) 272-4953. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communication and for After Final communications.

Frances P. Oropeza  
Patent Examiner  
Art Unit 3766

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